PRESENTATION IN MATH 6

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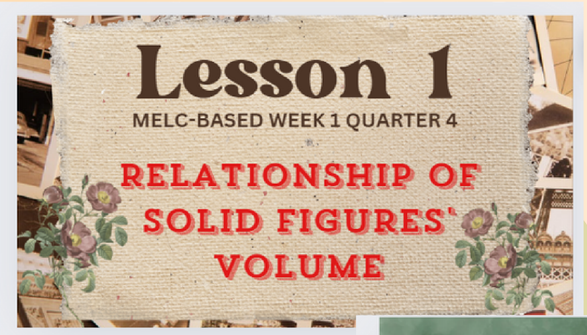
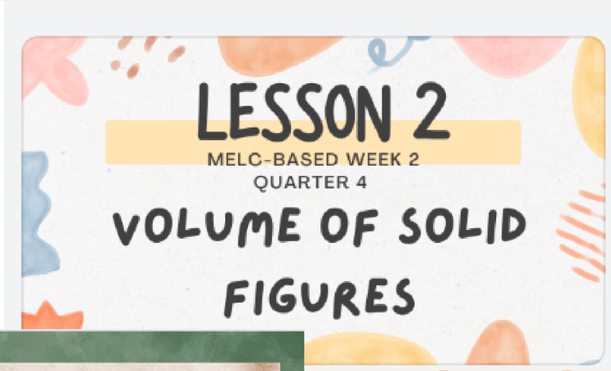
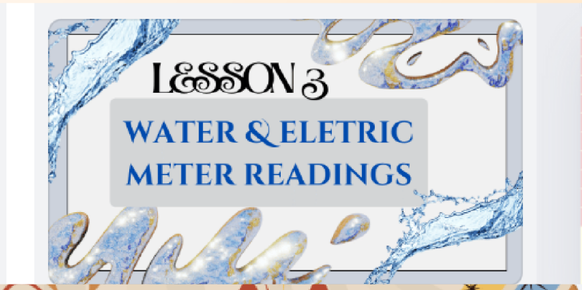
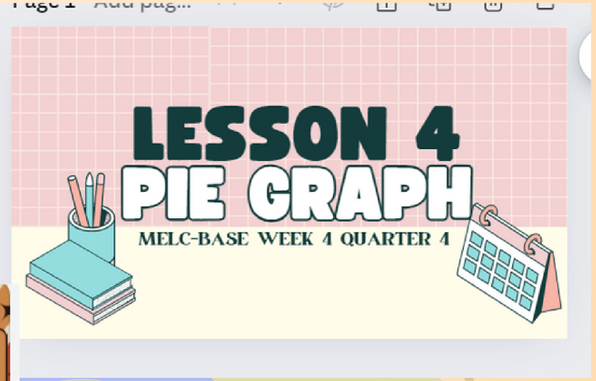
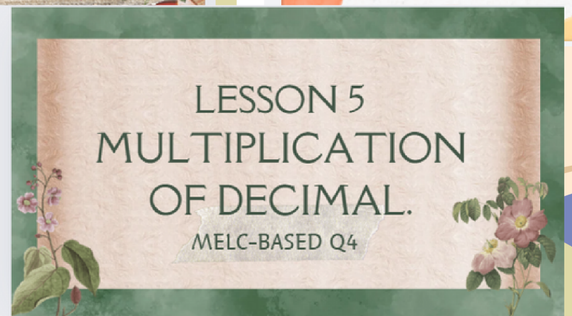
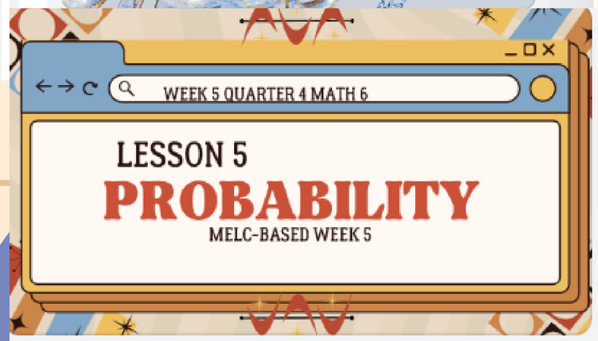












Lesson 1

MELC-BASED WEEK 1 QUARTER 4

RELATIONSHIP OF SOLID FIGURES' VOLUME

Determine the relationship of the volume between ;

Rectangular prism & Pyramid

Cylinder & cone

Cylinder & sphere

What is Volume?

VOLUME IS the amount of space inside a solid figure .

- **It is measured in CUBIC UNITS**

Relationship of Rectangular prism & Pyramid

Height - 4cm

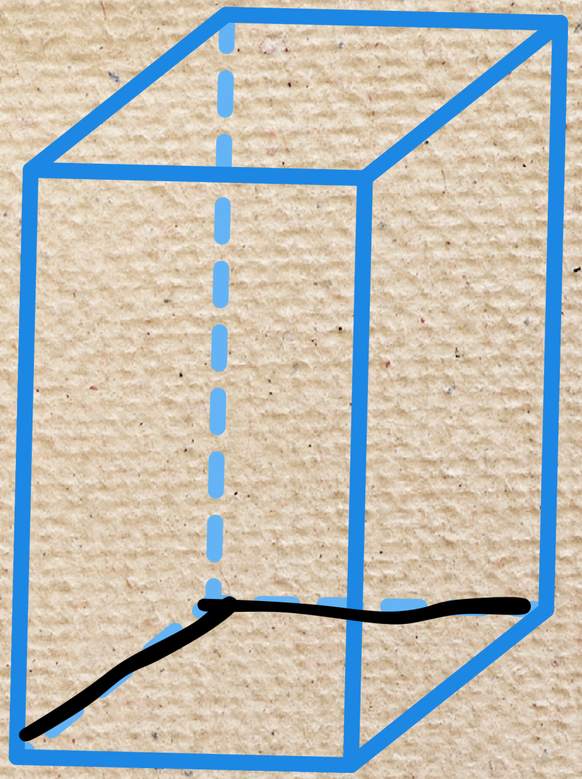
width - 2cm

length - 2cm

V of = l x h x w

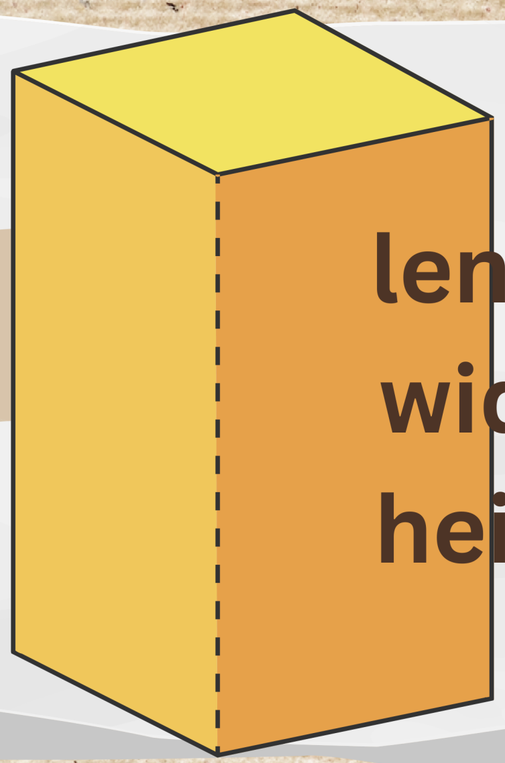
4x2x2 = 16cu.m

We can also observe that the. length x width is the area of the base.



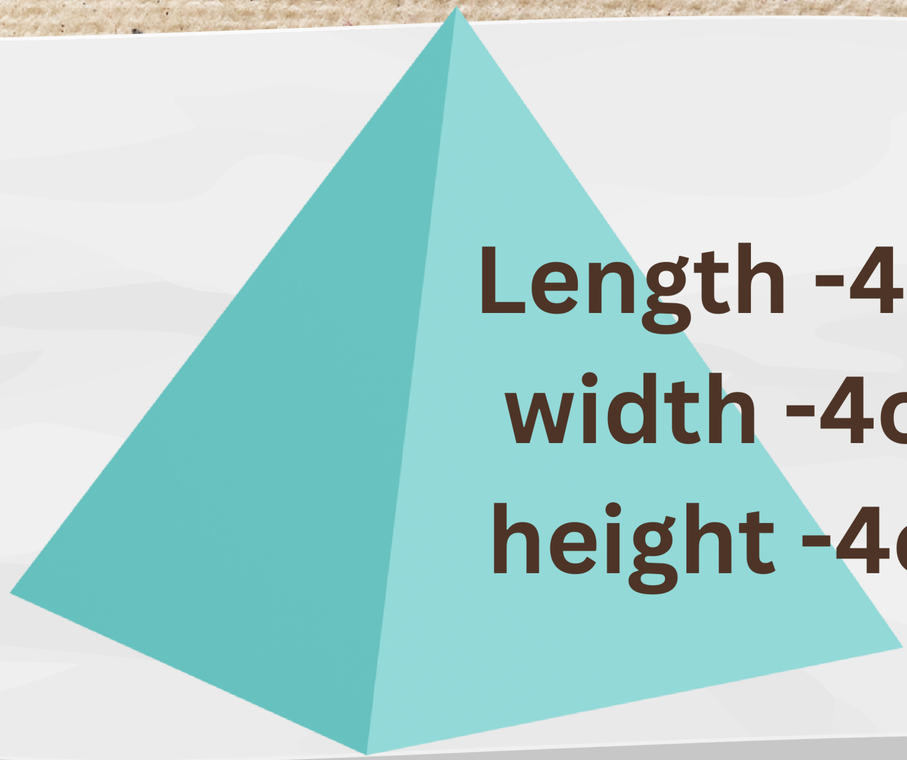
Length - 2cm
width - 2cm

Rectangular prism



length- 4cm
width - 2cm
height- 2cm

Pyramid



Length -4cm
width -4cm
height -4cm

From the experiment we learned that 1 Rectangular prism is equal to 3 Pyramid considering that they have the same height & base.

Therefore the VOLUME of the pyramid is equal to $^{1}/_{3}$ of the volume of the rectangular prism or

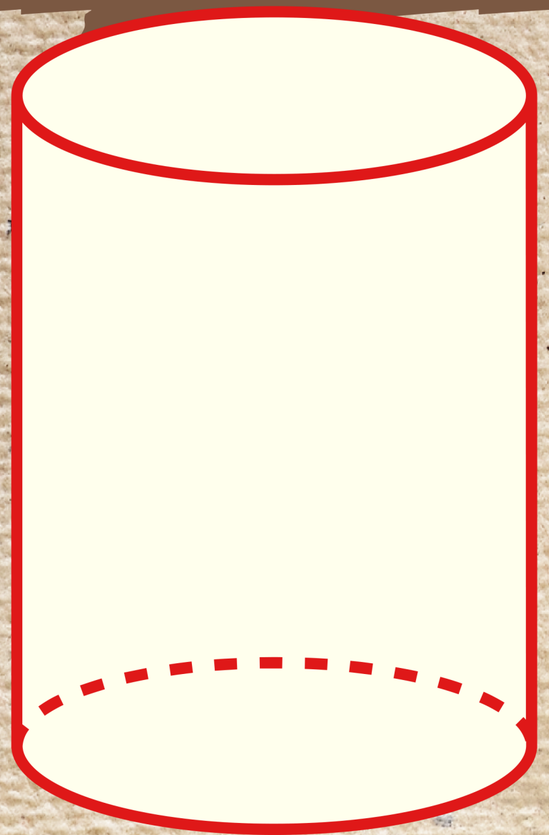
$$V \text{ of } \triangle = \frac{LWH}{3}$$

CYLINDER and CONE

V of Cylinder - area of X height the Base

Let's try make to make a formula.

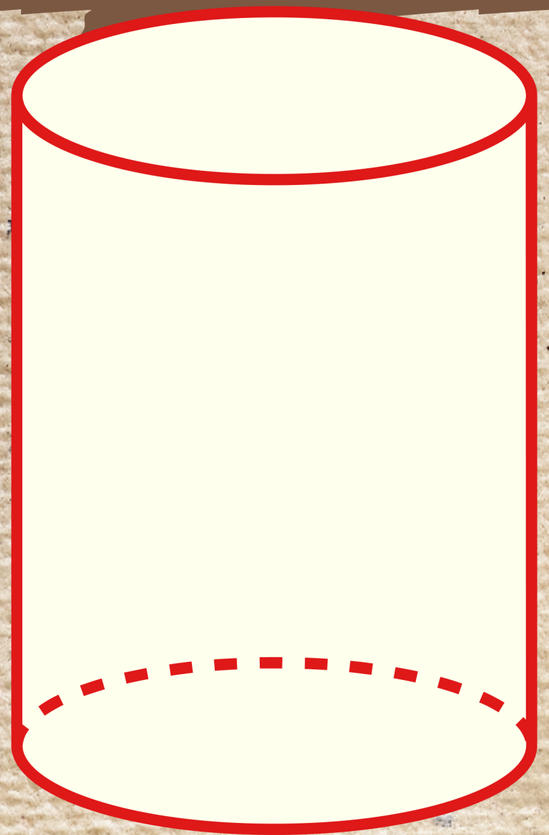
V of Cylinder - (B) πr^3 X height



the area of the base will be the area of the circle Which is

πr^3

V of Cylinder - (B) πr^3 X height



So the volume of cylinder is

$V = \pi r^2 h$

Cylinder

radius -4

height -8m

cone

radius - 4m

height - 8m

from the experiment we learned that 1 cylinder is equal to 3 cones considering that they have the same height and base.

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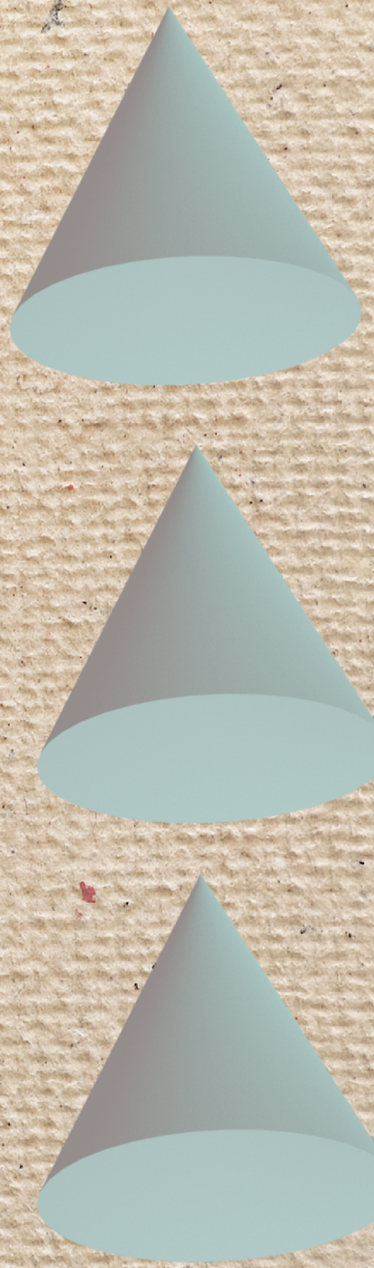


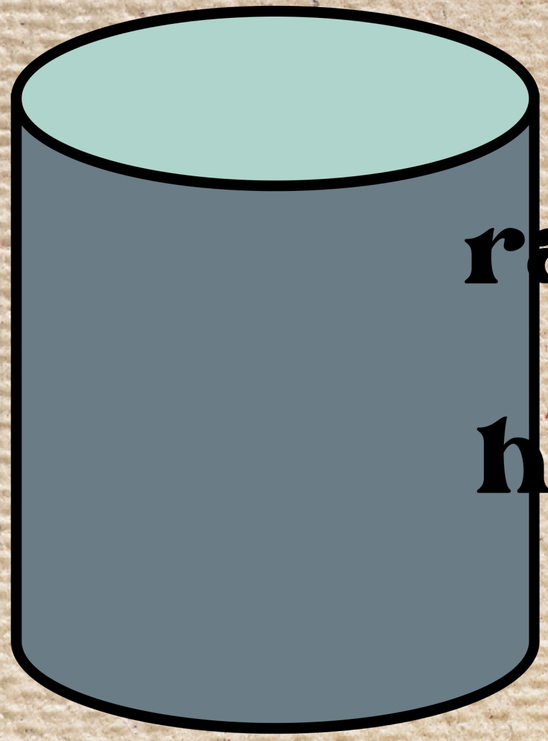
so we can say that he volume of the cone is 1/3 of cylinder

so the formula for the cone's volume is;

$$V = \frac{\pi r^3 h}{3}$$

CYLINDER and SPHERE

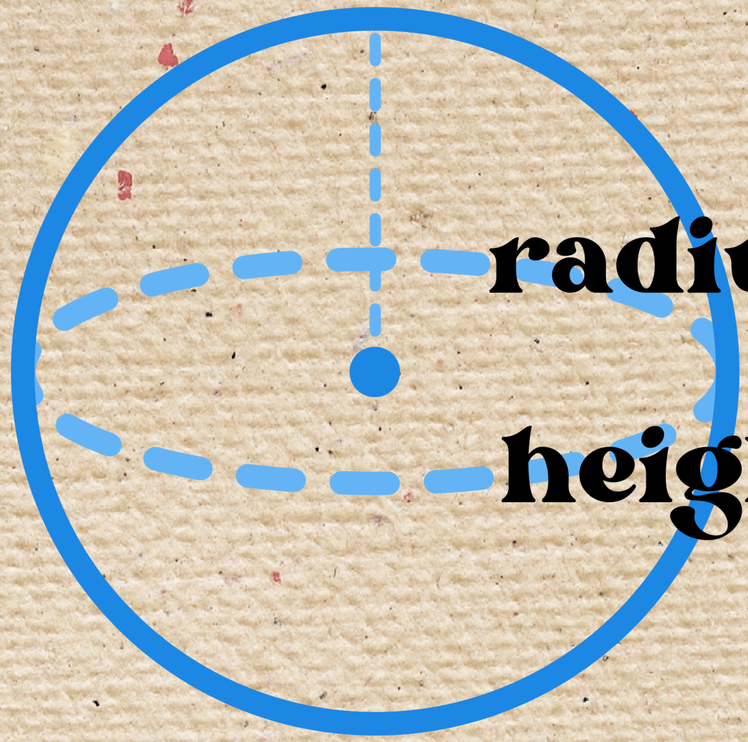
cylinder



radius 4m

height 8m

Sphere



radius 4m

height 8m

from the experiment we learned that 1 sphere can fill 2/3 of cylinder,considering that they have the same height and radius

we can say that the volume of sphere is 2/3 of the volume of the cylinder

so the formula of spheres volume;

$$V=\frac{4}{3}\pi r^3$$

summary;

VOlUME is the amount of space in a solid figure.

Volume- area of the base x height

The volume of the pyramid is 1/3 of the volume of the prism

The volume of the cone is 1/3 of the volue of the cylinder

The volume of sphere is 2/3 of the volume of the cylinder